AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A device for estimating a coarse frequency offset, which is included in a frequency offset estimator of an orthogonal frequency division multiplexing (OFDM) receiver, the device comprising:

a buffer for receiving demodulated symbol X(k) and cyclic shifting the symbol X(k) by a predetermined shift amount **d** and outputting shifted symbol X(k+d);

a reference symbol generator for generating a reference symbol Z(k);

a counter for counting the shift amount of **d**;

a partial ~~correlation~~ correlator for calculating a length m of K divided bands according to a time offset value and receiving the shifted symbol X(k+d) and the phase reference symbol Z(k) and calculating a partial correlation value

$$\left[\sum_{m=0}^{K-1}\left|\sum_{k=m(N/K)}^{(m+1)(N/K)-1} X(((k+d)_N)\,Z^*(k))\right|\right]$$

with respect to the K divided bands, wherein a range of shift amount **d** is between -N/2 and N/2; and

a maximum detector for obtaining a shift amount of **d** by which the partial correlation value is maximum, and outputting the shift amount of **d** as an estimated coarse frequency offset value.

2. (original): The device of claim 1, wherein the number of divided bands, K, is set to be within $2T_{off}$ when a timing synchronization offset which can be covered by frame synchronization is set to be T_{off}.

3. (currently amended): A method of estimating a coarse frequency offset in an orthogonal frequency division multiplexing (OFDM) receiver which performs OFDM demodulation and frequency synchronization, the method comprising the steps of:

(a) generating a reference symbol Z(k);

(b) counting the shift amount of **d**;

(c) calculating a length m of K divided bands according to a time offset value and receiving the shifted symbol X(k+d) and the phase reference symbol Z(k);

(d) calculating a partial correlation value

$$\left[\sum_{m=0}^{K-1} \left| \sum_{k=m(N/K)}^{(m+1)(N/K)-1} X(((k+d)_N) Z^*(k)) \right| \right]$$

with respect to K divided bands, wherein a range of shift amount **d** is between -N/2 and N/2; and

(e) obtaining a shift amount of **d** by which the partial correlation value is maximum, and outputting the shift amount of **d** as an estimated coarse frequency offset value.

4. (original) The device of claim 3, wherein the number of divided bands, K, is set to be within $2T_{off}$ when a timing synchronization offset which can be covered by frame synchronization is set to be T_{off}.

5. (currently amended): An orthogonal frequency division multiplexing (OFDM) receiver comprising:

a buffer for receiving demodulated symbol X(k) and cyclic shifting the symbol X(k) by a predetermined shift amount **d** and outputting shifted symbol X(k+d);

a reference symbol generator for generating a reference symbol Z(k);

a counter for counting the shift amount of **d**;

a partial ~~correlation~~ correlator for calculating a length m of K divided bands according to a time offset value and receiving the shifted symbol X(k+d) and the phase reference symbol Z(k) and calculating a partial correlation value

$$\left[\sum_{m=0}^{K-1} \left| \sum_{k=m(N/K)}^{(m+1)(N/K)-1} X(((k+d)_N) Z^*(k)) \right| \right]$$

with respect to the K divided bands, wherein a range of shift amount **d** is between -N/2 and N/2; and

a maximum detector for obtaining a shift amount of **d** by which the partial correlation value is maximum, and outputting the shift amount of **d** as an estimated coarse frequency offset value.

6. (original): The device of claim 5, wherein the number of divided bands, K, is set to be within $2T_{off}$ when a timing synchronization offset which can be covered by frame synchronization is set to be T_{off}.